

surgical intervention, most neurosurgeons require a clear delineation of the structures and the spinal canal, which means myelography. Air has been the most favored contrast medium but is being rapidly superseded by metrizamide.

The recognition of spinal dysraphism (perhaps miscalled occult or hidden, except by those who do not realize the significance of the stigmata) is often possible in children who have no lower limb or urinary troubles. Confirmation of probable cord malformation by plain spinal radiography then poses the question whether myelography should be carried out. What happened to all those children whose dysraphism was overlooked years ago? Probably only a small proportion suffered progressive neural damage. Yet it is very likely that early operation can reduce this risk to nearly nil.¹ To await muscle weakness or sphincter disturbance—both difficult to detect in the early stages in a young child—is to allow an irreversible disability to develop. The question of preventative or prophylactic surgical operation is unresolved. I think, however, that we can more readily accept that operation is justified in those otherwise normal children who have certain types of dysraphism such as diastematomyelia with the cord closely applied to the bony spur, or a cord greatly immobilized by bands or attached to the dura.

There is one important aspect of spinal dysraphism where there can be no controversy and where we may be grateful for the information derived from a study of a large number of these children. The suspicion that these conditions were genetically related to neural tube malformations—spina bifida cystica and anencephaly—is now well proven.² A study of the families of 207 patients with spinal dysraphism showed that the mothers were as likely to produce siblings with these lethal or gravely disabling conditions as were those mothers who already had given birth to a baby with anencephaly or spina bifida cystica. It follows that such mothers should be offered prenatal screening for neural tube malformation by alpha fetoprotein estimation in blood or amniotic fluid. The parents with children with spinal dysraphism should therefore be informed of these possibilities. Here lies a fresh incentive to detect those children with spinal dysraphism even if the condition is not thought to require operation.

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A Brain Drain to Elsewhere?

THE NEWS that some American research scientists are beginning to find government restrictions and red tape so difficult or impossible that they are beginning to do their research abroad is disquieting. It suggests the possible start of something like a reverse brain drain which, if it occurs, could only be to the long-term disadvantage of this country. At the moment it is the promising and urgent research in recombinant DNA that is at particular issue, but the larger question is whether or not we will sooner or later regulate ourselves out of the running in scientific research as we appear to be doing in some segments of the faltering economy.

It was not too long ago that medicine in this nation benefited greatly from the immigration of many well-trained physicians and medical scientists from Great Britain. It will be recalled that they came to this country because of their dissatisfaction and frustration with insensitive governmental regulation and red tape in the National Health Service of that country. This exodus of physicians to the United States of America was considerable and was referred to on both sides of the Atlantic as the "brain drain." Its effects on the physician manpower of both nations remain to this day.

Politicians, like many other humans, tend to become uncertain and sometimes even to panic when faced with the unknown. This appears to be what has happened with our governmental approach to research with recombinant DNA. But mankind has not got where it is by running away from the unknown or trying to ignore it. Rather mankind has progressed by challenging the unknown and exploring it, even at some risk. The world is larger than the USA and the portents are that the research on recombinant DNA will be done elsewhere if not in America. A brain drain to elsewhere seems a high price to pay for what can at best be only a temporary and false sense of national security.

—MSMW